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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/670,971	09/27/2000	Daniel J. Sherlock	99PS017/KE	5977

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Rockwell Collins Inc
Intellectual Property Department
400 Collins Road NE MS 124 323
Cedar Rapids, IA 52498

EXAMINER

NGUYEN, HAU H

ART UNIT PAPER NUMBER

2676

DATE MAILED: 12/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/670,971

Applicant(s)

SHERLOCK ET AL.

Examiner

Hau H Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 6 recites the limitation "28 VDC logic signal". There is insufficient antecedent basis for this limitation in the claim. It appears that claim 6 is dependent on claim 5. Correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1-2, 7-12 and 19 are rejected under 35 U.S.C. 102(a) as being anticipated by Mead (U.S. Patent No. 5,644,363).

Referring to claims 1, 10 and 19, Mead teaches a system for generating subliminal visual messages synchronized to a video signal, and superimposing those messages through a programmably variable modulation of brightness of another video signal (col. 2, lines 48-52). Subliminal messages are generated by the key cartridge 17, and the subliminal message generator generates and superimposes subliminal messages upon the video signal from the VCR 10 to form either a video output (32 on FIGS. 2 and 3) or an the video component of an RF-

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modulated television signal output 18 (col. 3, lines 46-47 and 53-57). As shown in Fig. 2, Mead teaches the video message generator 22 data output 23 is connected to a control input of a high-speed switch 24. This switch selects either a constant 25 signal or the output of an integrator 26. When the constant 25 is selected the screen intensity of the television 20 will have a first value and when the integrator output is selected the screen intensity will have a second value dependent on the voltage output of the integrator 26. The integrator 26 output is a function of the width of a pulse-width modulated signal 29. A processor 27 drives a pulse-width modulator (PWM) 28 which produces the pulse-width modulated signal 29 (col. 4, lines 3-13) and from then to the video output.

In regard to claim 2, Mead further teaches that the input data are digital values, which are converted into analog after delays (col. 4, lines 50-54).

As for claims 7 and 11-12, Mead teaches the character generator word is placed in a parallel-load, serial output, shift register 84 and shifted each pixel time to produce a pixel signal (col. 6, lines 31-34). As shown in Fig. 4, a row counter 83 functions as a clock signal for counting character lines and addresses and shifting data out of the shift register 84 (col. 6, lines 29-31).

Referring to claims 8 and 9, Mead teaches the inputs to the pulse width modulator 28 are supplied by the microprocessor 27 (col. 4, lines 50-54), and the system is supplied by two power supply voltages. The primary supply, known as VCC2 68, is approximately 10 volts and regulated down from a 12-volt standard wall-cube power supply. The second supply, VCC1 69, is approximately 5 volts as required for the microprocessor (see Fig. 3, and col. 5, lines 35-40). Therefore, the PWM 28 modulates superimposed signals in the 5-volt range.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-4, 13-14, and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mead (U.S. Patent No. 5,644,363) in view of Galipeau et al. et al. (U.S. Patent No. 6,249,913).

Referring to claims 3-4, 13-14, and 20-21, as applied to claims 1 and 10 above, Mead teach all the limitations of claims 3 and 4 except for the electronic system comprises a commercial airline display unit (LCD unit).

However, Galipeau et al. teach an aircraft data management system including video, audio subsystem, wherein additional video inputs including a map of the flight route with the aircraft superimposed over its present position, television programs or a camera providing a view similar to that of the aircraft pilot may be offered to the passenger (col. 11, lines 31-34), and the system also comprises a channel select display 128 (Fig. 7) is in the form of a backlit liquid crystal display (LCD) with a back lighting level that automatically adjusts for the ambient lighting conditions (col. 7, lines 46-49).

Therefore, it would have been obvious to one skilled in the art to utilize the LCD display system in an in-flight entertainment as taught by Galipeau et al. in combination with the method

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for superimposing data over static signal as taught by Mead in order to provide a passenger seated on the aircraft with more options (col. 3, lines 13-14).

7. Claims 5 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mead (U.S. Patent No. 5,644,363) in view of Bellman et al. (U.S. Patent No. 4,831,438).

Referring to claims 5 and 18, as applied to claim 1 and 10 above, Mead teaches all the limitations of claims 5 and 18, except for the static signal is a 28 Volt DC.

However, 28 Volt DC is the standard on-board power for aircraft, as disclosed in prior art, one of which is U.S. Patent No. 4,831,438 to Bellman et al. As is disclosed, Bellman et al. teach an electronic surveillance system having a command and control unit 400 for controlling video input/output and a monitor 488 for displaying in real-time the video signal. Also, a suitable time/date character generator is also included in the CCU 400 for superimposing one or two lines of text on the surveillance video near the bottom of the frame (col. 4, lines 28-34). Bellman et al. further teach the power unit 310 provides automatic switching between any available power source, including the standard 28 VDC aircraft power bus, an auxiliary power unit, and the battery-backup unit 330 (col. 4, lines 6-10).

Therefore, it would have been obvious to one skilled in the art to utilize the method superimposing image using 28 volt DC as taught by Bellman et al. in combination with the method of superimposing image as taught by Mead in order to conform with the standard aircraft power.

8. Claims 15 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mead (U.S. Patent No. 5,644,363) in view of Galipeau et al. (U.S. Patent No. 6,249,913) further in view of Wakai et al. (U.S. Patent No. 5,953,429).

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With reference to claims 15 and 22, as applied to claims 13 and 20 above, Mead and Galipeau et al. teach all the limitations of claims 15 and 22, except for the receiving circuit is coupled to a commercial airline tapping unit.

However, Wakai et al. teach a passenger entertainment system, which employs an improved audio signal distribution system and method, for use in commercial aircraft and other vehicles, wherein, as shown in Fig. 3, the video modulator unit (VMU) 124 is coupled to a plurality of tapping units (TUs) 132 which are, in turn, coupled to a plurality of video projectors or video monitors 118 (col. 10, lines 24-27).

Therefore, it would have been obvious to one skilled in the art to utilize the tapping unit in the in-flight entertainment system as taught by Wakai et al. in combination with the system as taught by Mead and Galipeau et al. as cited above in order to tap off a small portion of the composite RF video signal generated by the video modulator unit and to pass the remaining portion of the composite RF video signal to the next tapping unit 132 along a given daisy-chain with only a small amount of signal loss (col. 10, lines 49-53).

9. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mead (U.S. Patent No. 5,644,363) in view of Galipeau et al. (U.S. Patent No. 6,249,913) further in view of Dahan et al. (U.S. Patent No. 4,398,171).

As applied to claim 20 above, Mead and Galipeau et al. teach all the limitations of claim 23 except for the circuit for retrieving superimposed data comprising a comparator.

However, Dahan et al. teach a method for superimposing an image over another wherein the circuit comprises a comparator 46 (Fig. 5) for comparing the samples of identical location in

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the two memories and produces a 1 at the output in the event of a positive comparison (col. 3, lines 58-61).

Therefore, it would have been obvious to one skilled in the art to utilize the method of receiving superimposed data as taught by Dahan et al. in combination with the method as taught by Mead and Galipeau et al. above in order to compare the inputs (col. 3, lines 62-64).

10. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mead (U.S. Patent No. 5,644,363) in view of Galipeau et al. (U.S. Patent No. 6,249,913) further in view of Maier (U.S. Patent No. 6,393,053).

Referring to claim 24, as cited above, Mead and Galipeau et al. teach all the limitations of claim 24 except for the receiving circuit comprising an optocoupler.

However, optocouplers are commonly used in the art for use as a switch with a beam of light as disclosed in US 6,393,053 to Maier. Maier teaches a digital output unit having an optocoupler for transmitting the status and wire breakage information (col. 1, lines 30-32).

Therefore, it would have been obvious to one skilled in the art to utilize the optocoupler as taught by Maier in combination with the system for superimposed signals as taught by Mead and Galipeau et al. in order to improve performance of digital input units with multiple input channels (col. 1, lines 33-35).

11. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mead (U.S. Patent No. 5,644,363) in view of ARINC Characteristic 722.

Referring to claims 16 and 17, as applied above in claim 10, Mead teaches all the limitations of claims 16 and 17 except for the static signal is further coupled to a 28 Volt "on indicator" signal on pin 18 of an ARINC 722 connector.

However, as illustrated in the specification of ARINC 722 connector (Attachment 2, page 16), pin 8 of ARINC 722 is an “on indicator” 28 Volt DC.

Therefore, it would have been obvious to one skilled in the art to utilize pin 8 “28 Volt on indicator” of ARINC 722 connector as a static signal for superimposed signals to display on as taught by Mead in order to generate superimposed messages on a projection video system on airline.

12. Claims 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galipeau et al. (U.S. Patent No. 6,249,913) in view of Wakai et al. (U.S. Patent No. 5,953,429) and further in view of ARINC Characteristic 722.

Referring to claims 25 and 26, Galipeau et al. teach an aircraft data management system including video, audio subsystem, wherein additional video inputs including a map of the flight route with the aircraft superimposed over its present position (status reporting), television programs or a camera providing a view similar to that of the aircraft pilot may be offered to the passenger (col. 11, lines 31-34). As shown in Fig. 6, Galipeau et al. teach the system further comprises a video module 152 also transmits data back to the head end via data network interface module 114 enabling the passenger to select a desired video (col. 9, lines 26-28). Thus, Galipeau et al. teach all the limitations of claims 25 and 26 except for the system further comprises a tapping unit and the status reporting circuit coupled to the tapping unit along pin 8 of ARINC 722 connector.

However, Wakai et al. teach a passenger entertainment system, which employs an improved audio signal distribution system and method, for use in commercial aircraft and other vehicles, wherein, as shown in Fig. 3, the video modulator unit (VMU) 124 is coupled to a plurality of

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tapping units (TUs) 132 which are, in turn, coupled to a plurality of video projectors or video monitors 118 (col. 10, lines 24-27).

Therefore, it would have been obvious to one skilled in the art to utilize the tapping unit in the in-flight entertainment system as taught by Wakai et al. in combination with the system as taught by Galipeau et al. in order to tap off a small portion of the composite RF video signal generated by the video modulator unit and to pass the remaining portion of the composite RF video signal to the next tapping unit 132 along a given daisy-chain with only a small amount of signal loss (col. 10, lines 49-53).

As illustrated in the specification of ARINC 722 connector (Attachment 2, page 16), pin 8 of ARINC 722 is an "on indicator" 28 Volt DC.

Therefore, it would have been obvious to one skilled in the art to utilize pin 8 "28 Volt on indicator" of ARINC 722 connector as a static signal for superimposed signals to display on as taught by Galipeau et al. and the tapping unit in a video system as taught by Wakai et al. in order to generate superimposed messages on a projection video system on airline.

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Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hau H. Nguyen whose telephone number is: 703-305-4104. The examiner can normally be reached on MON-FRI from 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on 703-308-6829.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D. C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

H. Nguyen

12/12/2002



Matthew C. Bella
Primary Examiner